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# WORKLOAD ANALYSIS

## for BLM's Hazardous Materials Program

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## A Look Into the Future

PREPARED BY THE HAZARDOUS MATERIALS
FIELD IMPLEMENTATION GROUP
BUREAU OF LAND MANAGEMENT
SEPTEMBER 1993

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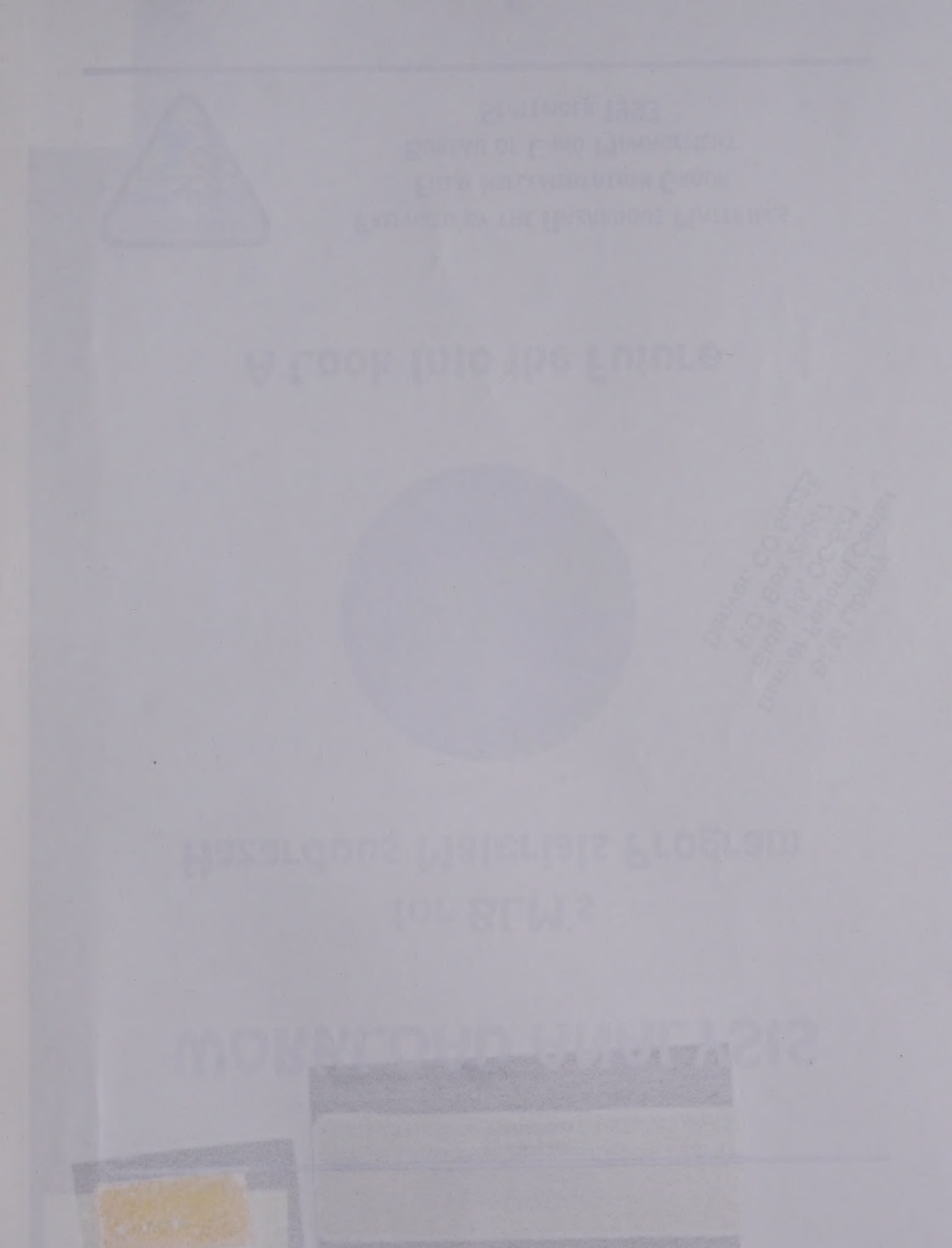

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# WORKLOAD ANALYSIS

## for BLM's Hazardous Materials Program

## A Look Into the Future

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

PREPARED BY THE HAZARDOUS MATERIALS
FIELD IMPLEMENTATION GROUP
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SEPTEMBER 1993

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# *Preface*

This report focuses on recent recommendations by the Inspector General, the National Academy of Engineering report, other external program evaluations, and program decentralization. This report represents current field estimations of the overall situation regarding potential hazardous materials sites and associated workloads, and offers recommendations for a new program structure.

* The report reveals the need for consistent and comprehensive inventory to validate figures and an overall inventory strategy. Some states are already pursuing inventory effort Wyoming is one of them.

The workload analyses in this document summarize existing and anticipated workload and future staffing needs in the Bureau of Land Management's Hazardous Materials Management program.

The analysis presents Bureau staffing, workload, and funding situations based on preliminary FY 1992 data and field input. The analyses are divided by inventory, action, training, and technical support. Funding and staffing are based on the projected workload and the decentralization of the Hazardous Materials Management program.

We're looking at continued cuts in FY 95,

# Executive Summary

BLM's Hazardous Materials Management program began in 1983 in response to public concern about the proliferation of hazardous chemicals and the widespread contamination of the environment from careless or improper use and disposal of hazardous materials on public lands. Several overlapping laws designed to regulate hazardous materials and spur the cleanup of sites contaminated by hazardous wastes also directly affected BLM's program. Those laws include the Resource Conservation and Recovery Act and its 1984 amendments; and the Comprehensive Environmental Response, Compensation and Liability Act which created Superfund, and its 1986 amendments. The laws require BLM and other federal agencies to identify and remediate existing contaminated sites on public lands and to implement policies and procedures to reduce risks to public health and the environment that often are associated with hazardous materials.

## Goals and Objectives

### Goals

Protect the public, its resources, and the environment.

Ensure compliance with laws and regulations regarding hazardous materials.

Minimize BLM's legal liability.

Control the costs of cleaning up hazardous wastes.

### Objectives

Inventory public land sites potentially containing materials that would be detrimental to human health or the environment.

Train employees to carry out Hazardous Materials Management duties.

Support the implementation of an ecosystem-based approach to management of public lands by providing expertise in the development of interdisciplinary plans across jurisdictional boundaries.

Contribute to sustaining the integrity, diversity, and productivity of ecological systems while continuing to provide resource products, uses, values, and services for present and future needs.

Protect the public health and safety relative to uses or activities on public land which may or do cause hazardous materials sites or incidents on public land.

Protect natural resources and the environment from the effects of hazardous materials or wastes.

Comply with applicable federal and state hazardous materials and related laws and regulations.

Minimize future hazardous materials-related liabilities and costs to the Federal Government.

## *Recommendations*

Employ a full-time Hazardous Materials Advisor to oversee the development and implementation of policy and program guidance.

Provide a policy mechanism and supplemental program guidance to prepare policy, define program guidance needs, and set priorities.

Establish a separate funding account to support a base program, evaluations, large removals, and remedial actions.

Propose legislation that will return recovered funds to a proposed Hazardous Materials Management reimbursable account.

Allow selected BLM personnel to enter areas of low to moderate risk to study and oversee areas within their responsibility.

Empower State Directors to authorize certain procurements, cooperative agreements and grants, and cooperative research as part of their Hazardous Materials Management responsibilities.

Provide intergovernmental training to ensure proficiency in the many aspects of the Hazardous Materials Management program.

# Introduction

BLM's Hazardous Materials Management program began in 1983 in response to public concern about the proliferation of hazardous chemicals and the widespread contamination of the environment from careless or improper use and disposal of hazardous materials on public lands. Several overlapping laws designed to regulate hazardous materials and spur the cleanup of sites contaminated by hazardous wastes also directly affected BLM's program. Those laws include the Resource Conservation and Recovery Act and its 1984 amendments; and the Comprehensive Environmental Response, Compensation and Liability Act which created Superfund, and its 1986 amendments. The laws require BLM and other federal agencies to identify and remediate existing contaminated sites on public lands and to implement policies and procedures to reduce risks to public health and the environment that often are associated with hazardous materials.

## Purpose

The purpose of this document is to recommend various changes needed to reorganize BLM's Hazardous Materials Management program . . .

## Goals and Objectives

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Protect the public health and safety relative to uses or activities on public land which may or do cause hazardous materials sites or incidents on public land.

Protect natural resources and the environment from the effects of hazardous materials or wastes.

Comply with applicable federal and state hazardous materials and related laws and regulations.

Minimize future hazardous materials-related liabilities and costs to the Federal Government.

# *Background*

In the early 1980s, BLM discovered that many sites on public lands were contaminated with solid wastes, principally from mining and the disposal of municipal wastes. In 1984, BLM began its Hazardous Materials Management program with a small staff in the Washington Office. The field program began by placing a part-time coordinator in each State Office with additional part-time assistance from district and resource area personnel.

In its early years the program focused on developing a Hazardous Materials Management policy that, by necessity, was controlled by a single focus: avoid liability. Limited funding and staffing prohibited BLM from aggressively managing the activities of public land users. Even with significant funding increases, BLM had a severe shortage of full-time professional staff, and relied almost exclusively on private contractors, not only to conduct field investigations, but also to interpret and evaluate investigation results.

The report on the FY 1988 Appropriations Act directed BLM to contract with the National Academy of Engineering to evaluate the nature and scope of the Bureau's Hazardous Materials Management program to manage those problems. The National Academy of Engineering evaluation cited a number of concerns and challenged BLM to become more proactive in its program. It identified two principal weaknesses in BLM activities related to hazardous materials management: (1) the lack of policy direction to BLM programs regarding its roles in hazardous materials management and (2) the shortage of full-time professional staff.

The National Academy of Engineering evaluation made 63 recommendations in 12 categories: strategic, organizational, policy, legislative, budgetary, staffing, training, pollution prevention, information management, research, public participation, and coordination.

In an effort to strengthen its ability to meet hazardous materials management responsibilities on public lands and to enhance its capability to conduct field-based program functions, BLM decentralized its Hazardous Materials Management program in 1990. Decentralization capitalized on profits from the potential of BLM's field resources; increased the ownership, understanding, and importance of the Hazardous Materials Management program within the field offices; and emphasized a proactive approach in BLM to manage hazardous materials.

To meet the emerging role of hazardous materials management, an advisory field implementation group was formed in 1990 to evaluate current hazardous materials management contracts, workloads, standards, manuals, and policies.

As a result of the field implementation group's initial evaluation, completed in July 1991, five contracting efforts were transferred to the Service Center:

1. The Regulatory Compliance Contract.
2. The 1989 Preliminary Assessment/Site Investigation Contract.
3. The 1990 Preliminary Assessment/Site Investigation Contract.
4. The existing Technical Assistance Contract.

94 Conference, Phoenix May 16-20

5. The newly issued Technical Assistance Contract.

With this document, the field implementation group has evaluated existing and proposed workloads, funding, and personnel needs for BLM's Hazardous Materials Management program over the next 10 years.

Assumptions: Assumptions made in this document are based upon budgetary figures found in Appendix I. In the absence of actual inventory numbers, workload and cost estimates are made by members of the field implementation group.

## *Recommendations by priority*

### *1. Hazardous Materials Advisor*

**Proposed Policy**
BLM would retain a Special Assistant to the Director for Hazardous Materials. This would be a two year assignment using a line manager from the field. This position would be the coordination point with the Department, Congress, and industry. The position would be responsible for assuring the Bureau's Hazardous Materials Management program gets the attention needed to implement the goals and objectives of the program. This would allow the Washington Hazardous Materials staff (WO-750) to continue its development of program direction and policy, working the states.

#### *Rationale*

The Hazardous Materials Management program needs visibility in Congress and the Department. This position could facilitate interagendcy and intra-agency coordination as well as Congressiaonal liaison ad advocacy for the program.

### *2. Policy Mechanism and Supplemental Program Guidance*

**Proposed Policy**
The State Office Program Leaders for the Hazardous Materials Management program will meet at least twice annually with representatives from the Washington Office, the Bureau Management Team, Phoenix Training Center, and the Service Center. This group will prepare policy, determine program guidance needs and set priorities. The Washington Office will prepare and approve final policy and will prepare or delegate the preparation of technical program guidance to the Service Center and other offices.

#### *Rationale*

This proposed policy implements the spirit of the reorganization of the Hazardous Materials Management program while maintaining overall control at the Washington Office. An annual meeting of State Office Program Leaders would ensure a field perspective and consensus of important needs within the program.

### *3. Separate Base Program Account*

**Proposed Policy**
BLM would have a separate account to support a base program (labor, equipment, support, etc.) and a separate fund for evaluations, large removals, and remedial actions. One option could be a No-Year

account to accommodate a separation of the program budget. Another option could be a construction account which is an established No-Year fund.

### *Rationale*

A separate base program account for evaluation, removal, and remediation would provide the:

- ability to apply a site priority system to the allocation of funds.
- ability to tie evaluations, removals, and remediation to ensure that worst-case sites, in terms of threat or risk to the environment, are cleaned up first.
- ability to fund unexpected projects through available funds regardless of the fiscal year of occurrence.
- improved ability to comply with time frames set forth in the Comprehensive Environmental Response, Compensation and Liability Act process, compliance orders, etc.
- ability to enhance decision making for BLM sites impacting rural communities which are diversifying toward recreation and tourism.
- ability to remediate sites before they become more costly to remediate.
- ability to fully fund multi-year performance projects through the life of those projects crossing fiscal years.
- ability to fund projects based on projected needs.
- ability to direct funding to the program rather than turning it back to the Department or redirecting it for non-mission expenses.

Without a separate base program account, adequate funding for the Hazardous Materials Management program may not be ensured. Critical time-response demands may not be met without severely impacting other BLM programs and potentially large fines for failure to comply with existing regulations may accumulate.

## *4. Cost Recovery*

**Proposed Policy**

BLM would propose legislation that recovered funds would go directly to a BLM Hazardous Materials Management reimbursable account, in coordination with the Office of Environmental Affairs and the Office of the Solicitor to ensure synchronization with Department goals. To ensure this, the program is recommending an additional position to serve as a cost recovery coordinator.

Under this proposed policy, BLM would establish a reimbursable account to hold money recovered from responsible parties. (This policy could be merged with the separate base program account as an overall cost structuring policy.) BLM would also develop procedures to recover money from responsible parties for expenditures exceeding $10,000. BLM will seek Congressional advice on recovering funds from landfill operations that are or were under the operation of state or local governments.

### *Rationale*

The Hazardous Materials Management program requires a policy that defines the level of cost recovery, allows funds recovered to be returned to BLM, and defines cost recovery approaches to be taken with state and local governments. Without such a policy, recovery would be difficult, and funds needed to defray expenses would not be returned to BLM.

Some states have been successful with recovering costs, others have not. The position of cost recovery coordinator could bring consistency in the Bureau's efforts to recover costs and develop the tools and mechanisms needed to effectively recover costs. This position would also ensure that approved cost recovery recommendations are implemented.

## *5. Site Entry*

**Proposed Policy**

Under this policy, BLM personnel would be permitted to enter areas potentially containing low to moderate risk hazardous materials, as authorized by the State Director and in accordance with the Occupational Safety And Health Act requirements. The BLM would also establish the necessary medical surveillance, employee certification, equipment, and training needed to accomplish program goals.

### *Rationale*

BLM's Hazardous Materials Management personnel, including project inspectors, law enforcement officers, and technical specialists, must have access to the sites for investigations, studies, and oversight. The National Academy of Engineering report (1992) recommends that all full-time Hazardous Materials Management program staff receive enough training to safely enter low- and medium-risk sites.

Current policy suggests cost-benefit studies, which could be used to determine the level of protection required by the field offices. A red-card approval system, which would allow State Directors to control the program based on the experience of the personnel involved, is also recommended. The card system would incorporate some field-strategy monitoring and in-service practice to keep field personnel adequately trained.

## *6. State Director Authority*

**Proposed Policy**

This proposal recommends that the states' small purchase amounts be raised from $25,000 to $100,000 or more to expedite acquisitions. It also suggests that State Directors have the authority to approve cooperative agreements and grants costing less than $250,000.

### *Rationale*

Current restrictions on the procurement authority of State Directors ($25,000 in most states) does not allow reasonable or timely procurement actions at a level commensurate with their budget responsibilities. Hazardous materials actions often require expenditures greater than $25,000, even for a relatively small investigation or corrective action. A higher state procurement authority would give

more flexibility to the field offices and prevent many of the time delays experienced on smaller jobs.

State Directors also need authority to enter into assistance or cooperative agreements with state agencies, without Washington approval, to streamline Hazardous Materials Management program operations. This authority would allow more effective handling of relationships authorized under the Federal Facilities Compliance Act and Resource Conservation and Recovery Act and would encourage cooperative research and development efforts.

### *7. Inter-Government Training*

**Proposed Policy**
State Office Hazardous Materials Management program leaders and District/ Resource Area coordinators need proficiency in many aspects of the Bureau's Hazardous Materials Management program. Each state office needs to develop its own initial and recurrent Hazardous Materials Management training policy to meet the needs of individual state programs. Under this policy BLM personnel would be encouraged to take additional courses through other agencies, such as the Environmental Protection Agency, to meet individual needs.

### *Rationale*

The BLM Hazardous Materials Management program has extensive and unique technical and legal complexities which could carry potentially heavy liabilities to the Bureau and to individual Bureau personnel. The Phoenix Training Center has developed a curriculum which addresses the training needs of BLM personnel involved with the management of hazardous materials and the Hazardous Materials Management program. This curriculum is affiliated with Wayne State University for an undergraduate or graduate credit option for BLM personnel attending the courses.

### *8. Career Development*

**Proposed Policy**
Establish a continuing career development program that focuses on the Hazardous Materials Management program, commensurate with the growing complexity of applicable laws and Bureau Hazardous Materials Management activities. Training would be available to all employees involved with the program, including those in collateral positions. Because qualifications are critical to job performance, training would be structured and recognized, with specific skill certification and, at the employee's option, could include graduate training or undergraduate course credit.

Training would combine long-term curriculums (three years) and intense short-term training, complemented by field experience, electives, and refresher courses. Learning would be supplemented and strengthened through continuing in-service experience and participation in program assistance, which would incorporate vital field contributions and expertise directly into program development.

The initial focus would be to certify project inspectors, and then develop training for other technical areas, as needed. Graduate certificates, recognized industry-wide, would be granted upon successful completion of the

three-year training program. Certification will be issued by Wayne State University, a major university with a sophisticated and respected curriculum offering degrees in Hazardous Materials Management.

### *Rationale*

Effective management of BLM's hazardous materials program demands knowledge of laws and regulations, regulatory requirements, and analytical processes relating to hazardous materials as well as proficiency in physical laws and biology. To become competent in hazardous materials management, BLM coordinators must learn these basic disciplines and integrate them through many forms of training and experience.

As the Hazardous Materials Management program and associated regulatory compliance become increasingly more complex, more expertise, judgment and responsibility will be required from field coordinators. Field expertise will increase through interaction with senior program leaders and other coordinators, who will be able to provide a broader management perspective to the hazmat effort.

Through program assistance:

Managers will gain ownership in Hazardous Materials Management program direction, a critical component to the success of this Bureau effort.

Coordinators will gain technical knowledge, as well as teamwork and leadership skills.

The Bureau will gain a stable, long-term technical staff of coordinators.

Both the PI certification and certificate programs are intended to establish a defensible level of professional standards to effectively deal with contractors, regulators, litigators, and cooperating agencies. As the requirements for the hazardous material program develop, certification may expand into other specialties.

All these elements, the graduate certificate programs, the certifications, and the program assistance efforts are integral to a successful and competent Hazardous Materials Management program. Decentralization prescribed a change. This effort makes the change work effectively.

We have some HAZMAT people without strong science backgrounds.

Again, it appears we may be headed back towards Centralization.

# *Workload Analysis*
## *HAZARDOUS MATERIALS AND THE RIGHTS-OF-WAY PROGRAM*

## *I. Introduction*

Rights-of-way authorized by the Federal Land Policy and Management Act of 1976 and the Mineral Leasing Act, as amended, are a major use of public land. As such, the Right-of-Way program receives management interest, priority, and attention commensurate with other principal uses of the public lands, such as the range, forestry, and wildlife programs. Significant impacts are associated with various rights-of-way proposals, both on the environment and the workload of the Bureau.

All rights-of-way grants have some occupancy or activity associated with them. Any construction or other activity allowed under the terms of the grants could potentially involve using or generating wastes with toxic characteristics that could cause environmental contamination if not handled properly. Long-term monitoring would be required to assess potential releases.

The Office of Management and Budget, in accordance with the Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation and Liability Act, the National Academy of Engineers Report and the Government Accounting Office regulations and policies, directed BLM to inventory all potential hazardous materials sites on BLM-managed surface and subsurface lands and minerals, including rights-of-way. This represents a substantial workload, both in terms of work months and dollars. Because BLM has a limited number of qualified personnel to monitor activities occurring during construction or use of the lands during the terms of the grants, there is a lack of documented knowledge which complicates management, especially in regard to the Hazardous Materials Management program. Whether any of these lands constitute a substantial risk to human health or the environment will be determined through an inventory process. Follow-up study will occur where deemed necessary.

require R/W applicants to describe what Haz. Materials will be used, how they will be managed upfront in R/W applications

## *II. Workload Description*

### *A. Site Identification*

Information supplied by BLM's case recordation system indicates that BLM administers approximately 80,000 active rights-of-way on public land, resulting in various degrees of surface disturbance. Some, such as railroad, pipeline, road, ditch, and canal rights-of-way, involve extensive use of heavy construction equipment. Other facilities such as underground or aboveground storage tanks on communication sites, pipeline rights-of-way, and transformer yard/ substations on power line rights-of-way are frequently constructed on public land. Rights-of way that have been abandoned are generally free of any improvements. The number of abandoned rights-of-way with improvements or potentially hazardous materials is unknown.

In nearly all rights-of-way situations, heavy equipment use may lead to possible hydrocarbon releases from drained oil, fuel spills, etc. By monitoring construction, BLM

personnel would minimize impacts from this type of incident.

Power line rights-of-way frequently involve construction of substations or transformer yards which could result in transformer oil leakage that may result in polychlorinated biphenol releases. Some power line rights-of-way include vegetation control provisions that could result in uncontrolled herbicide releases.

Pipeline rights-of-way present the potential for hydrocarbon releases, both surface and subsurface, from ruptured or leaking lines. Pipelines also present possible additional contaminant releases from compressor and pumping stations. Some pipeline rights-of-way include underground storage tanks which, in time, present other potential contamination problems.

Communication site rights-of-way usually require an auxiliary power source that is sometimes fueled by hydrocarbons stored in aboveground or underground storage tanks.

Inventorying these sites would involve querying all rights-of-way holders to determine if their sites contain aboveground or underground storage tanks; transformer yards or substations; intensive herbicide activity; or other potentially contaminating improvements correlated with the rights-of-way. Rights-of-way with any of these types of improvements need to be site-inspected for potential contamination problems. Some of these sites would be further inspected for actual contamination of the environment.

Lands and Realty subactivity 4210 is the designated lead for the actual inventory with technical assistance, definition and policy interpretations, and overall coordination with the Office of Management and Budget from the Hazardous Materials Management program. Hazardous Materials Management subactivity 4760 has responsibility only at those locations where contamination is indicated, and a potentially responsible party cannot be contacted or is unwilling to assess or clean up the site. In FY 1993, the Lands and Realty program was directed to proceed with the inventory workload.

Protocols for the Office of Management and Budget inventory are being established by the Washington Office. These protocols need to account for the differences in categories of rights-of-way such as roads, power lines, railroads, pipelines, communications sites, etc. Lands and Realty program personnel rather than Hazardous Materials Management program personnel will be doing the actual inventories to determine the number of rights-of-way that might constitute a hazard to human health or the environment.

These inventories can be accomplished by using the automated case recordation system to determine the type, quantity, location, and holder of the rights-of-way. A form letter query can then be sent to the addressee of record requesting information about improvements, including underground storage tanks and transformers, that may have been installed on public land. A site visit would be required for those rights-of-way improvements that have increased potential for contamination.

### *B. Studies and Investigations*

The estimated workload is shown on Table 1. Since inspections usually occur during and after construction activities, few serious contamination problems are anticipated.

TABLE 1

| Rights-of-Way Workload | | | | |
|---|---|---|---|---|
| Type of Authorization | Number of Cases to Review | Cases and Cost to 4210 | Cases and Cost for Further Action 4760 | TOTAL |
| Rights-of-Way other than Communication Site | 78,000 active cases | 78,000 at $25/case $1.95 mil | No anticipated 4760 costs. (Anticipate all paid by potentially responsible party) | $1.95 mil |
| Communication Site | 2,000 active cases | 2,000 at $25/case $50K | No anticipated 4760 costs. (Anticipate all paid by potentially responsible party) | $50K |

Problems with operations under the terms of the grant would fall under BLM's oversight role in its responsibility to manage the public lands.

Inventory and follow-up inspections are not anticipated to be a large workload for the Bureau, regardless of the numbers of rights-of-way involved and their potential for contamination. Because of accurate Bureau records for rights-of-way grants, BLM involvement in resolving hazardous materials problems should be administrative with little on-the-ground activity. Rights-of-way rules contain provisions directing holders to handle problems.

### *C. Corrective Actions*

Contamination within rights-of-way would be cleaned up by the responsible party, usually the grantee as shown on the rights-of-way documentation. If no responsible party can be found, the burden of cleanup would fall to the Bureau. Long-term monitoring should be part of the rights-of-way portion of the lands program to allow BLM to manage operations that could potentially generate hazardous wastes on the rights-of-way. The frequency of inspection could have impact on total costs for the Lands and Realty program.

### *D. Hazardous Substance Management*

In addition to compliance with inventories required by statue and the Office of Management and Budget, the field implementation group recommends management changes in the Lands and Realty program to include more frequent compliance inspections, increased awareness of activities on lands that may involve hazardous materials, more stringent stipulations attached to grants, and permanent retention of expired case files. These actions would minimize waste, help prevent hazardous materials releases, and limit rights-of-way holder and BLM liability for hazardous material problems.

### *E. Training*

See general training requirements for the Hazardous Materials Management program on page 8.

### *F. Program Management*

See general Hazardous Materials Management program management guidance on page . Other changes that could be instituted include testing of all underground and aboveground storage tanks and close inspection of all transformer yards/substations. Program management costs would become significant only if any existing or abandoned rights-of-ways involved an incident that would take the Hazardous Materials Management process to the remedial investigation/feasibility study and remedial action stage. This would likely involve one full-time person to analyze the impact of contaminated sites and develop a cleanup plan. This would likely involve one full-time person to analyze the impact of contaminated sites and develop a cleanup plan.

## *III. Workload Capability*

The Hazardous Materials Management program is currently spending about three percent ($600,000) of its annual budget to manage incidents on rights-of-way. This percentage may increase from the proposed inventories, but not necessarily at the same rate as the total number of incidents, due to the involvement of potentially responsible parties.

## *IV. Conclusions*

BLM needs to develop policy or recommendations on cost recovery. In some instances, responsible parties may be reluctant to take the required cleanup action. In some cases, costs may have to be recovered through court action, a sensitive issue because many rights-of-way holders are small local power cooperatives and local governmental entities.

The Lands and Realty program must ensure that standard and site-specific stipulations are adequate to protect the environment from potential contamination from hazardous wastes.

Another problem exists with the standard investigation and scoring process that determines whether a site is placed on the national priorities list. Whether any contamination poses a threat, now or in the future, depends on the environmental pathways open to contaminants and the types of targets. Rights-of-way often provide access to sites that otherwise would be inaccessible, and these sites have historically been used for illegal dumping. Current evaluation systems do not address the potential for contamination should human populations move into an area. BLM could have significant problems in the future where population growth may affect the hazard ranking score. BLM must develop a database for tracking any rights-of-way related problem sites so that a record of the potentially responsible party is maintained, should future problems develop.

# *Workload Analysis*
## *HAZARDOUS MATERIALS AND LEASES, PERMITS AND EASEMENTS*

## *I. Introduction*

Leases, permits, concessions, and easements on public lands are authorized by the Federal Land Policy and Management Act, statute and other laws and regulations. Unlike rights-of-way, use permits are not considered a major realty program and do not receive the level of management interest, priority, and attention commensurate with other principal uses of the public lands. Use permits are, however, important to the overall Lands and Realty program and extremely important to the public and other government agencies that use public lands on a short-term basis. A considerable number of personnel are dedicated to the use permit portion of the Lands and Realty program.

Nearly all leases, permits, easements, and concessions have some occupancy or activity associated with them. Construction or other activities allowed under the terms of the permits could potentially use or generate wastes that could cause environmental contamination if not handled properly.

The Office of Management and Budget has directed BLM to inventory all potential hazardous materials sites on BLM-managed surface, subsurface lands and minerals, including lease, permit, and easement sites. This represents a substantial workload, both in terms of work months and dollars. Like for rights-of-way, BLM has few personnel qualified to monitor activities occurring during the term of the use permit. This, plus a general lack of documented knowledge of on-going and temporary land use activities, complicates site management, especially as it relates to the Hazardous Materials Management program. Some records of past temporary land use are no longer available as there is no requirement to retain those files. Contamination at these sites will be difficult to identify. Whether any of these land uses constitute a substantial risk to human health or the environment will need to be determined through inventory and follow-up study.

Of the types of activities allowed under leases, permits, and easements, airport and airstrip leases are of the most concern. While routine inspections occur during and after construction, activities associated with airport/ airstrip leases tend toward potential contamination problems. Airport and airstrip leases may involve pesticide application, aircraft engine repair and painting. Fuel sales and storage may cause other hazardous materials problems. Industrial sites and transportation development sites also pose problems because of the high risk nature of these activities. All these activities could potentially contaminate the environment.

In some use permit situations, use of heavy equipment may lead to possible hydrocarbon releases from drained oil, fuel spills, etc. By monitoring construction and adhering to established regulations and policies, BLM personnel would be able to minimize impacts from these types of incidents. However, because of missing records, many previously used sites will be difficult to locate to determine prior uses and potential contamination. Some use permits include

vegetation control provisions that could result in uncontrolled herbicide releases.

## II. Workload Description

### A. Site Identification

BLM's case recordation system identifies approximately 1,250 active use permits, authorizing various types of uses and activities on public lands, most of which cause surface disturbances. Information on previously issued use permits may be lost since permanent retention of these permits is not required.

Lands and Realty subactivity 4210 is the designated lead for the actual inventory. Technical assistance comes in the form of definition and policy interpretation and overall coordination with the Office of Management and Budget and the Hazardous Materials Management program.

Hazardous Materials Management subactivity 4760 is responsible for locations where contamination is indicated and a potentially responsible party is not available or is unwilling to assess or clean up a site. In FY 1992, subactivity 4210 received no funding for this workload. The Hazardous Materials Management program is not involved in determining the number of use permits that might constitute a hazard to human health or the environment.

Inventories required by the Office of Management and Budget and other rules and regulations can be accomplished by using the automated case recordation system to determine the type, quantity, location and holder of the use permit. A form-letter query could then be sent to the addressee of record requesting information about improvements and specific activities that may affect public lands. Site visits, or inspections, are required by the terms of the permit. A detailed inspection may be required for sites where improvements or activities could increase the potential for contamination. An extensive inventory would be required to find the unpermitted or abandoned use permit areas, particularly those associated with airports, airstrips and helipads.

### B. Studies and Investigations

The anticipated workload, as determined by

TABLE 2

Leases, Permits, and Easements Workload

| Type of Authorization | Number of Cases to Review | Cases and Cost to 4210 | Cases and Cost for Further Action 4760 | TOTAL |
|---|---|---|---|---|
| Leases<br>Permits<br>Easements | 1150 | 1150 at<br>$50/site<br><br>$57,500 | 100 at<br>$10,000/site<br><br>$1 million | $1.057,500 |
| Airport leases<br>(Second number<br>are unauthorized) | 100<br>(100) | 200 at<br>$2,000/site<br><br>$400,000 | 50 at $10,000 and<br>50 at $100,000<br><br>$5.5 million | $5,900,000 |

the field implementation group, is shown on Table 2. Problems with operations under the terms of the permit should be addressed by the permit holder with BLM oversight. Because permit records are not retained, inactive sites would present a major inventory workload to determine locations and identify previous activities.

While the inventory effort would be significant, site-specific studies would not cause a large workload. On-going inspections during operations would resolve most of issues before problems arose. Permit holders are required to take responsibility for handling contamination problems; enforcing this requirement will reduce BLM's costs.

The inventory workload involves reviewing all use permit files to determine whether the sites have aboveground storage tanks, intensive herbicide activity, or other potentially contaminating improvements or activities associated with the use permit. Based on the review, permit areas with any of these types of improvements or activities need to be inspected for possible contamination problems. A small percentage of these sites will be further inspected for actual contamination of the environment.

### *C. Corrective Actions*

Careful inspection when the use permit expires needs to be part of the use permit portion of the Lands program. Monitoring would allow BLM to manage sites for potential hazardous wastes during permit operations.
Contaminated sites would be cleaned up by the responsible party, usually the grantee, as shown on the permit documentation. In some cases, where documentation no longer exists or no responsible party is found, cleanup would be BLM's responsibility.

### *D. Hazardous Substance Management*

In addition to complying with established rules, regulations and the Office of Management and Budget, the field implementation group recommends the Lands and Realty program perform more frequent compliance inspections, increase awareness of activities on public lands that may involve using or generating hazardous materials, attach more stringent stipulations to the use permits, and permanently retain all use records. Actions should also be taken within existing regulations and laws to minimize waste, prevent hazardous materials releases, and limit permittee and BLM liability for hazardous materials problems.

### *E. Training*

See general training requirements for the Hazardous Materials Management program.

### *F. Program Management*

See general program management guidance. In addition, the program should institute a permanent file retention policy for all files associated with use permits and other authorizations, and other program changes as listed in part D.

With ongoing site compliance inspections and adherence to hazardous material management-related stipulations, Lands and Realty program management costs would be insignificant, except in cases where BLM becomes responsible for cleanup.

## *III. Workload Capability*

The Hazardous Materials Management program is currently spending about five percent of its annual budget to manage incidents on use permit areas. Current spending is estimated at $1 million annually for subactivity 4760. This percentage could increase significantly as a result of the inventory proposed.

## *IV. Conclusions*

BLM must develop a policy or recommendations for cost recovery. Court actions are not always effective in recovering costs when a responsible party does not clean up a site as required. Most permit holders are local residents with little or no reserve capital.

The Lands and Realty program must ensure that standard and site-specific stipulations protect the environment from potential contamination from hazardous wastes.

Whether any contamination poses a threat now or in the future depends on the environmental pathways open to contaminants and the types of targets. For example, current evaluation systems do not anticipate potential contamination problems should human populations move into an area. BLM could have significant problems in the future if population growth alters original hazardous condition assessments. Because of changes like these, BLM must develop a database to retain records of all use permits.

# *Workload Analysis*
## *HAZARDOUS MATERIALS AND UNAUTHORIZED LANDFILLS AND TRESPASS TRASH DUMPS*

## *I. Introduction*

Public lands are sometimes used for trash dumps or unauthorized landfills, particularly in sparsely populated areas. Some activities are a continuation of a long-standing practice, predating BLM and regulations; others are new or an occasional practice. Trespass trash dumps and unauthorized landfills are part of the overall trespass program. Trespass trash dumps differ from unauthorized landfills in that they are smaller and are usually used by one or two families rather than an entire community.

Trespass trash dumps and unauthorized landfills are of special interest to the Hazardous Materials Management program because potential wastes with toxic characteristics may have been deposited at these sites that could contaminate the environment if not handled properly.

The Office of Management and Budget, in accordance with statute, directed BLM to inventory all potential hazardous materials sites on public lands, including unauthorized landfills or trespass trash dumps. A records search of these cases indicates a minimal workload in terms of work months and dollars. To complete the actual inventory, considerable funding, time, and effort will be required. Idaho Falls District successfully used aerial photography in areas with high

potential for unauthorized dumps or landfills. The lack of knowledge concerning the wastes deposited in these areas complicates their management. Whether any of these areas constitute a substantial risk to human health or the environment will need to be determined through inventories and follow-up studies.

## *II. Workload Description*

### *A. Site Identification*

The field implementation group estimates about 100 unauthorized landfills and up to 100,000 trespass trash dumps of varying sizes and physical characteristics are on public lands. Some are in drainages with live or intermittent streams; others are in areas devoid of any ground or surface water. Quantities of materials deposited at these sites vary as well.

Most of the unauthorized landfills are believed to be near small, rural communities. Most are subject to periodic burning and most are not managed on-the-ground or maintained as required by federal and state regulations including regularly scheduled covering of deposited materials. The trash dumps vary in size from one truckload to 100-year accumulations of farm, ranch, mine, and household garbage.

Lands and Realty subactivity 4210 is the designated lead for actual inventories with technical assistance—definition and policyinterpretations and overall coordination with the Office of Management and Budget—from the Hazardous Materials Management program. Hazardous materials management subactivity 4760 has responsibility at locations where contamination is indicated and a potentially responsible party is not available or is unwilling to assess and/or clean up the site. In FY 1993, the Lands and Realty program was directed to proceed with this workload.

Protocols for the Office of Management and Budget inventory on unauthorized landfills and trespass dumps are being established by the Washington Office.

Hazardous Materials Management program personnel will not be doing actual inventories to determine the number of public land sites that might constitute a hazard to human health or the environment. The inventories required by the Office of Management and Budget can be accomplished by searching the trespass logs in the resource area offices. Most sites should be identified in the logs or in documentation associated with the land use planning process.

Additional field investigations in areas with high potential for unauthorized landfills, such as parcels of public land near small towns, agricultural areas, and dirt airstrips, may be needed. Site visits would be required for all unauthorized landfills to assess the potential for contamination.

### *B. Studies and Investigations*

It is not anticipated that unauthorized landfills present a high risk to public health or the environment. Since nearly all trash dumps are in rural areas, the potential for contamination problems is high, primarily from chemical containers associated with mining activity and herbicide and pesticide containers associated with the agricultural and ranching activities common to these areas. Finding perpetrators is difficult and their capability to pay

TABLE 3

| Unauthorized Landfills/Tresspass Trash Dumps | | | | | |
|---|---|---|---|---|---|
| Estimated Number | Number and Cost to 4210 | Number and Cost to 4760 | Remedial Investigation/ Feasibility Study or Removal | Remedial Action | TOTAL |
| 100,000 | 100,000 at $20/site | **1500** solid waste at $1,000/site<br>$1.5 million<br>**500** hazardous waste at $10,000/site<br>$5 million | 20 at $1 million/site | 5 at $3 million/ site | |
| | $2,000,000 | $6,500,000 | $20,000,000 | $15,000,000 | $43,500,000 |

associated cleanup costs is usually limited. Manufacturing wastes are generally not a problem at illegal landfill or trash dump sites.

BLM is comparing the number of unauthorized landfills with those that are inventoried as unauthorized landfills, and trespass trash dumps with those that are authorized under the Recreation and Public Purposes Act. Care needs to be taken to avoid double counting.

The field implementation group estimates the records search portion of the inventory process will not represent a large workload. However, the workload for follow-up site investigations to determine the potential for contamination, and analyses of possible contamination pathways will be significant. The potential for contamination of ground water pathways is great in most cases. In nearly all instances, wastes have not been recorded.

### *C. Corrective Actions*

Increased recordation of trespass needs to be emphasized. Local BLM managers should work with local communities, including farmers, ranchers, and miners, to ensure responsibility and proper permitting and operation of unauthorized landfills. If possible, the sites should be sold to local entities. Activities at unauthorized landfills must be monitored to manage operations involving potential hazardous wastes.

### *D. Hazardous Substance Management*

In addition to regulatory compliance, the field implementation group recommends the Lands and Realty program perform more frequent site inspections, increase their awareness of dumping activities that may involve hazardous materials, and permanently retain trespass logs. These activities would ensure identification of potentially responsible parties, prevent or reduce hazardous materials releases, and limit trespasser and BLM liability for hazardous materials problems.

### *E. Training*

See general training recommendations for the Hazardous Materials Management program.

### *F. Program Management*

The Lands and Realty program documents trespasses as they are located. Proposed changes include permanent retention of all files associated with trespass landfills and a more aggressive posture in dealing with unauthorized landfills. This includes stopping activity at a site, if possible; promoting waste systems; and making property available for landfills.

Refer to general program management for guidance.

## *III. Workload Capability*

The Hazardous Materials Management program is currently spending about two percent of its annual budget on managing incidents on unauthorized landfills and about 20 percent on trash dumps. This percentage could increase significantly as a result of the proposed inventories.

## *IV. Conclusions*

BLM must develop a policy or recommendations for cost recovery. Court actions are not always effective in recovering costs when a responsible party does not clean up a site as required. Most permit holders are local residents, with little or no reserve capital.

Whether any contamination poses a threat now or in the future depends on the environmental pathways open to contaminants and the types of targets. For example, current evaluation systems do not anticipate potential contamination problems should human populations move into an area. BLM could have significant problems in the future if population growth alters original hazardous condition assessments. Because of this, BLM must develop procedures to work with communities to educate them in waste disposal and its impacts on the environment.

# *Workload Analysis*
## *PERMITTED RECREATION AND PUBLIC PURPOSES LANDFILLS*

## *I. Introduction*

This workload analysis addresses all permitted landfills. BLM has authority and is encouraged to supply land to municipalities for landfills and other amenities through the Recreation and Public Purposes Act. However, this authority has little funding or direction for regulating and monitoring the program. Until just recently, the policy for using lands for such facilities was encouraged.

Some lands leased by BLM to municipalities for landfills have now reverted to BLM, along with any problems and potential liabilities. Others will be in operation until leases expire, and many will close prior to October 1993 (the activation date of the new Subtitle D federal landfill regulations).

In 1986, the Environment, Energy, and Natural Resources subcommittee, House Committee on Government Operations, investigated problems associated with landfill operations on public lands. During the investigation, the staff collected and reviewed data and files and interviewed departmental, state, and local officials in several western locations.

The subcommittee's investigation revealed that disposal landfills on public lands were operating at practically no cost to the lessee and that there was widespread noncompliance with the Environmental Protection Agency's mandatory guidelines. BLM had not successfully carried out its statutory responsibility to ensure compliance with EPA guidelines.

The extent of contamination and the environmental health hazards resulting from noncompliance were unknown, as were the potential costs of cleanup and other remedial actions. Similarly, threats to the environment from closed disposal sites operating prior to Environmental Protection Agency guidelines and the potential hazards of substances disposed of at these sites were unknown.

The investigation revealed BLM was focusing its investigations on verifying data from previously identified sites, rather than new sites which could be potentially contaminated with hazardous wastes. The Committee report raised questions regarding the environmental consequences and liability of Bureau policies regarding the transfer of land containing operating landfills.

On August 15, 1988, the Department of the Interior responded to the Committee's report with a letter outlining a number of national actions and plans. In response to Committee findings, BLM issued a regulatory compliance audit contract to investigate the status of landfills operating on public lands, which resulted in 121 landfill reports. Costs of bringing the landfills into compliance varied from a few thousand dollars to hundreds of thousands of dollars per site. Under two contracts, BLM had 40 "closed" landfills investigated. Most were not "closed" in conformance with EPA regulations, but only one of the 40 appeared to need significant additional study.

Inventory is one way the Bureau can control these potential hazardous materials

management problems. Other recent actions include prohibiting the leasing of lands for landfills; increased compliance inspection on existing landfills; enforcement of new lands regulations; investigation and remediation of existing and closed landfills; environmental audits on lands to be exchanged, sold, or purchased; increased identification and prosecution of responsible parties; and a more active public education program.

However, neither the Committee's report nor the Department's response recognized the roles and responsibilities of state and local government that, in most cases, are responsible for regulating such facilities. The Committee report could not compel leased landfills to promptly comply with the regulations, under the threat of lease termination. In addition, the following considerations have important on-the-ground management implications for BLM:

Many state governments are responsible for issuing compliance and permits for solid waste facilities.

BLM's only enforcement authority is to revoke a landfill lease on public lands.

Many landfills operated by local governments but located on public lands do not comply with state regulations.

Most landfills on public lands are operated by county or city governments.

Experience shows that unplanned landfill closures result in large-scale trespass dumping.

Most local governments lack funding to operate landfill facilities in accordance to regulations.

# *II. Workload Description*

## *A. Site Identification*

Using the automated case recordation system, the Lands and Realty program has inventoried all active permitted landfills and many inactive landfills. This inventory shows 167 active landfills, in addition to the 121 landfills that have already undergone a remedial corrective action. Another 333 inactive landfills are recorded with BLM. Since the inventory workload is basically complete, the remaining workload focuses on studies and investigations, corrective actions, training, and program management.

## *B. Studies and Investigations*

The Secretary of the Interior has identified the following work items:

Open landfill corrections were to be conducted under contract on active landfills on public land. The Bureau accepted 121 final reports of these audits in February 1992, but has ordered no further audits based on final 40 CFR 258 (Criteria for Municipal Solid Waste Landfills) regulations. These regulations could, on a case-by-case basis, exempt many small landfills in low precipitation areas from most regulatory requirements considered in these landfill reports. The rapid closure of many landfills due to changes in the Bureau's landfill program encourages centralized landfill facilities owned by local government.

Table 4 summarizes the estimated landfill workload and associated costs.

TABLE 4

**Landfill Workload Summary 10-Year Planning Period**

| Description | Number of Sites | Cost |
|---|---|---|
| Site Identification | 500 | Completed |
| Non-docket/Removal studies and investigations (regulatory compliance audits, closed landfill assessments) | 300 | $6,000,000 |
| Docket/Remedial studies and investigations (preliminary assessment/site inspection) | 100<br>(20) | $20,000,000<br>$20,000,000 |
| Docket/Remedial corrective actions | 20 | $60,000,000 |

The field implementation group believes that conducting the inventory would be a minimal workload since a listing from the case recordation database has been produced. There would be considerable work to perform an evaluation on every landfill. Based on the completed evaluations, little if any new information about the general condition of landfills as a whole is being collected. Follow-up inspections will require a site visit and a record examination. Work beyond the inventory phase has already shown to be a major commitment of time and money. Even though there are accurate records of the holders of the landfill leases, information as to who placed what in the landfill, how the landfill was operated over the years, and what actions are necessary to bring the landfill into compliance with state and federal regulations is either expensive or impossible to collect. An additional problem centers on the limited ability for the lease holders and others to pay the costs associated with resolving problems found at the landfills.

### *C. Corrective Actions*

Landfills with contamination would, ideally, be cleaned up by the holder of the lease. In most cases, the burden of cleaning up would fall to the BLM because the lessee does not have the financial capability to fund the necessary activity. More accurate record keeping and more frequent site inspections by trained inspectors needs to be a part of the Lands and Realty program. At some landfills, ground water monitoring needs to become a required part of operation of the landfill.

### *D. Hazardous Substance Management*

In addition to compliance with the inventory required by the Office of Management and Budget, the field implementation group recommends management changes to the Lands and Realty program in the form of frequent and extensive site inspections. Both operators and inspectors need to be more aware of what is going into the landfills and various recycling programs that might be used to alleviate potential contamination. These actions should help prevent hazardous materials releases and limit lessee and BLM liability for hazardous materials problems.

### *E. Training*

See general training guidance for the Hazardous Materials Management program.

### *F. Program Management*

See general program management guidance.

Program management costs would become significant if any of the existing landfills should involve an incident that would take the hazardous materials management process to the remedial investigation/feasibility study and remedial action stage. This would involve setting up a scheme for analyzing the impact of contaminated sites and a plan for cleanup. These would likely require one full-time person and a commitment of about $240,000 per site.

## *III. Workload Capability*

Most states are conducting investigations using contractors; however, several states now have the capability to conduct in-house audits and preliminary assessments as well as support contract administration on large site investigations, remedial investigation/ feasibility studies, and remedial actions. However, most state offices do not have this capability and the overall budget requirements far exceeds the existing budget.

The Hazardous Materials Management program is currently spending about 15 percent, $3,000,000 of its annual budget, on management of incidents involving permitted landfills. This percentage could increase significantly as a result of studies done in the future.

## *IV. Conclusions*

BLM must develop policy or recommendations on cost recovery in its dealings with municipalities. Congress may need to assess the situation and determine if the landfill business requires special legislation and funding attention.

With separate program funding, BLM can begin some corrective actions and investigations. The need for action becomes critical when state regulatory agencies, under the Federal Facilities Compliance Act, demand faster action than BLM can currently deliver.

Contracting procedures or a contracting alternative to provide corrective actions and investigations are also needed.

Whether any contamination poses a threat now or in the future depends on the environmental pathways open to contaminants and the types of targets. For example, current evaluation systems do not anticipate potential contamination problems should human populations move into an area. BLM could have significant problems in the future if population growth alters original hazardous condition assessments. Because of this, BLM must develop procedures to work with communities to educate them in waste disposal and its impacts on the environment.

BLM needs to develop a database for tracking any permitted landfill-related problem and for recording information about sites should future problems develop.

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# *Workload Analysis*
## *HAZARDOUS MATERIALS AND LOCATABLE MINERALS*

## *I. Introduction*

Past and present mining activities including exploration, development, production, and processing have the potential of producing physical and chemical hazards to the public and the environment if not managed properly.

In December 1989, the BLM Mining Law Administration task force lead by the Nevada State Director, Ed Spang, identified a need for increased management of abandoned (pre-1981) locatable mine sites on lands managed by the BLM. The task force recommended the BLM expand its management efforts in the areas of public safety, hazards, effects on sensitive areas, and Comprehensive Environmental Response, Compensation and Liability Act/hazardous waste issues.

A BLM-wide inventory of abandoned mine sites was recommended as an appropriate starting point to implement the recommendations. To begin the process, the Assistant Director, Energy and Mineral Resources, requested that the Solicitor's Office determine whether an abandoned mine inventory would affect BLM's liability. The Solicitor's Office determined that the Regional Solicitor input was required. The Regional Solicitors determined that BLM's liability would not be affected. This recent determination has allowed the Solid Minerals program to pursue development of inventory methodologies to conduct an abandoned mine inventory.

In 1991, the Office of Management and Budget directed the Department of the Interior to inventory all potential hazardous-materials sites on public land to determine the potential hazard to public health and the environment. The Office of Management and Budget received a commitment from the BLM to identify all significant potential risk sites by the end of FY 1993. The remaining lower risk active and inactive mines are to be inventoried by the end of FY 1998.

In 1992, a Secretarial Order initiated the Department's Comprehensive Approach to Waste Management that included the mandate to inventory, and when necessary, clean up and restore contaminated areas under DOI management.

In response to the Office of Management and Budget directive and the Secretarial Order, BLM established a task group to develop inventory guidelines to identify potential hazardous-materials sites on public lands. The inventory and evaluation of priority sites was completed in FY 1993; inventories of remaining sites will be completed by FY 1998. Priority sites are those that present significant potential threats to human health or the environment, as well as those that are possible candidates for the national priorities list or subject to court orders for enforcement.

On July 30, 1992, a task force was established under the direction of Washington Office 660. Jinx Fox was designated as the Washington Office lead and Tom Leshendok (Deputy State Director for Minerals in Nevada) was designated as the co-lead. The purpose of this task force is to develop inventory strategy to implement the Director's decision to inventory the abandoned locatable mine sites. The task force met in Salt Lake City on October 29,

1992 to outline national inventory strategy that includes: 1) development of a data base, 2) development of pilot studies in one or two states, 3) implementation and evaluation of the pilot studies, and 4) implementation BLM-wide. The hazardous materials management inventory is to be integrated into this inventory strategy. This effort is to formalize an implementation plan with milestones, tracking, and public awareness actions.

# *II. Workload Description*

## *A. Site Identification*

The total number of active and abandoned mine sites on public land is unknown. These sites represent a broad spectrum of contaminant potential because of the nature of the ore body (gold, sliver, lead, arsenic, cadmium, other heavy metals, uranium, etc.). Differences in extraction and bonification processes also exist such as cyanide heap leach sites, acid extraction etc. Associated contaminant possibilities such as acid mine drainage must also be considered. Ancillary materials such as on-site laboratory chemicals, mining operation materials, abandoned power transformers, etc., need to be assessed. The problem of surveying abandoned mines is there is no record of the mines developed on public lands from 1872 to 1981. Prior to January 1, 1981, no federal regulations existed to manage surface-disturbing activity authorized under the mining laws. An operator was not required to notify the BLM prior to earth-disturbing mining activity. In addition, unpatented mining claims were not recorded with the BLM until the passage of the Federal Land Policy and Management Act.

## *B. Studies and Investigations*

State and federal agencies vary significantly in the extent of their available databases, on-going activities, and purposes for their inventories. Some federal databases exist, such as the US Geological Survey Mineral Resource Data System. Some states have maintained and updated this database or use information from the Western Governors Association.

A number of strategies could give some approximation of an abandoned mine site inventory, but all would have potentially high up-front costs in terms of dollars and time. BLM intends to work from existing knowledge and databases, supplementing the information with records searches, satellite imagery, etc., as funding becomes available. Mine sites could pose relative risks to landfills and industrial sites, due to their remoteness and often large volume/low toxicity.

Lacking complete information on the number of sites on public lands, the protocols to be used for assessing the sites for priority of high risk, and methodologies of on-the-ground evaluation of hazards, the field implementation group used the following assumptions to develop the funding needs (Table 5).

TABLE 5

Locatable Minerals Workload Summary
10-Year Planning Period

| Description | Number of Sites | Cost |
|---|---|---|
| Site Identification | 200,000 | $5,000,000 |
| Non-docket/Removal studies and investigations | 20,000 | $40,000,000 |
| Docket/Removal studies and investigations | 60 | $95,000,000 |
| Non-docket/removal corrective actions | 10,200 | $140,000,000 |
| Docket/Remedial corrective actions | 60 | $60,000,000 |
| TOTAL | | $340,000,000 |

1. Estimated 200,000 mine sites on public lands which are abandoned mines, adit-type; no ground water involved; surface water could be a factor; not near population centers.

2. Funding required by the locatable minerals subactivity to develop inventory and perform initial screening at $25.00 per site.

3. Ten percent of the initial sites would require further evaluation by the Hazardous Materials Management program. 200,000 X 10 percent = 20,000.

4. Preliminary sampling would take approximately one day per site. Sample costs would be approximately $1,000 per site. Report writing would take 0.5 days per site. $1,500 X 20,000 = $30,000,000.

5. If the site is shown to be contaminated, the Hazardous Materials Management program would coordinate with the locatable minerals program to develop a notice of non-compliance under 43 CFR 3809 if a potentially responsible party exists, stipulating a 30-day compliance requirement. Estimated to be 20,000 sites X $500 or $10 million funded by the locatable minerals subactivity.

6. Of these 20,000 contaminated sites, removal actions would be required. Ten thousand sites at $10,000 per site or $100 million funded by the Hazardous Materials Management program.

7. Large removal actions would be required on 200 sites at a cost of $200,000 for a total of $40 million funded by this program.

8. Remedial study and investigation would be required on 60 sites over a 10-year period, for a total cost of $95 million.

9. Large-scale remedial corrective actions would be required on these 60 sites at a cost of $60 million over the 10-year period.

10. The total costs from inventory through remediation are estimated to be $340,000,000 over a 10 year period. Locatable minerals would have to supply $15 million and $325 million would come from Hazardous Materials Management.

### *C. Corrective Actions*

Mining areas with contamination would be cleaned up by the responsible party (the holder of the mining claim) if the individual's or

company's financial condition provided adequate funds. In many cases, a responsible party may not be found or the holder of the mining claim may be insolvent. In those cases, BLM would be responsible for cleanup. Strict enforcement of 43 CFR 3809 will lessen the potential for contamination at future sites. Adequate bonding to cover cleanups should be mandatory in the 3809 process.

### *D. Hazardous Substance Management*

In addition to compliance with the inventory required by the Office of Management and Budget, the field implementation group recommends the following management changes in the 3809 portion of the minerals program: more frequent compliance inspections; increased awareness of activities at the mine site that may involve hazardous materials; more stringent stipulations attached to the 3809 authorization; permanent retention of 3809 files; and bonding in amounts adequate to cover cleanup and reclamation of mine sites. These actions would further prevent hazardous materials releases and limit mining claimant and BLM liability for hazardous materials problems.

### *E. Training*

See general training guidance for the Hazardous Materials Management program.

### *F. Program Management*

The regulations currently place safeguards that prevent or minimize future problems with mining operations. Additional inspections of mine operations could lessen future problems. Past mining activities, not regulated under 3809, present the biggest potential cleanup cost.

Current legal stands taken by industry, naming BLM as a potentially responsible party in substantial actions because it administrates the 1872 Mining Law, must be aggressively challenged. The preliminary estimate for cleaning up the Clark Fork Comprehensive Environmental Response, Compensation and Liability Act site is over $1 billion. If BLM is held liable, a significant portion of that cleanup cost responsibility could be allocated to the Bureau and the federal taxpayer.

Hundreds, possibly thousands, of abandoned mining operations, where no potentially responsible party can be found, will add substantially to the cleanup costs borne by BLM.

Refer to general program management for guidance.

## *III. Workload Capability*

Fifteen percent of the FY 1993 Hazardous Materials Management budget of $20 million is dedicated to locatable mineral activities. This percentage is expected to increase significantly in future years.

Half of the BLM's state offices have begun some sort of mine inventory activity, ranging from preliminary contact with state and federal agencies for an inventory database, to piloting site evaluation technology, to evaluating a number of sites. The state offices that have not begun any action cite lack of funding and personnel, no priority for inventory, and no guidance.

Pilot efforts are underway in Nevada, New Mexico, and Utah. BLM state-coordinated activities are underway in Arizona, Montana, and Wyoming.

## *IV. Conclusions*

BLM must develop a policy or recommendations for cost recovery. Court actions are not always effective in recovering costs when a responsible party does not clean up a site as required. Actions would be against large corporations as well as small miners.

Regulations need to be more stringently enforced. Bonding amounts would mitigate potential cleanup and remediation costs. Standard and site-specific stipulations must be developed and enforced to protect the environment from potential contamination from hazardous wastes.

# *Workload Analysis*
## *HAZARDOUS MATERIALS AND OIL AND GAS PROGRAM*

## *I. Introduction*

Oil and gas exploration and production on public lands is authorized by the Mineral Leasing Act, and as such, receives high management interest, priority, and attention. Oil and gas activities may use or generate wastes with toxic characteristics that could cause environmental contamination if not handled properly. Close supervision of program leasing has prevented much hazardous waste contamination.

The Office of Management and Budget directed BLM to inventory all potential hazardous materials sites on public lands, including oil and gas sites. This represents a substantial workload in terms of work months and dollars. The regulatory ambiguity for managing these wastes and the lack of knowledge concerning whether these sites constitute a substantial risk to human health or the environment complicates both operator and BLM management. BLM has yet to develop a comprehensive national policy to limit BLM liability from the disposal or mishandling of oil and gas wastes, on-site, by operators or lessees.

## *II. Workload Description*

### *A. Site identification*

There are 100,000 drill sites on public lands, including surface and subsurface mineral estate. Each of these sites contains at least one reserve pit that may have been reclaimed according to a variety of practices. A reserve pit may contain drill cuttings and a solid fraction of the drill mud. Mud additives, including some containing hazardous substances, may also be present. Certain wastes unique to the exploration, development, and production of oil and natural gas have been exempted from regulation as hazardous waste under the Resource Conservation and Recovery Act. These are still regulated under other environmental laws including the Clean Water Act and Comprehensive Environmental Response, Compensation and Liability Act.

Inventories would include querying all oil and gas lease holders to determine activities that may have led to potential contamination of resources on the public lands. Case files of expired leases would have to be checked for the locations of abandoned waste pits. Additional inspections may be needed to determine if contamination is present or if more thorough testing or studies are required.

The Washington Office is establishing protocols for the Office of Management and Budget and statutory inventories, which need to account for differences in geologic and climatic conditions in oil and gas fields on public lands. Drill operations in basins with deep drilling or hydrogen sulfide problems (e.g., Williston Basin in North Dakota) use salt water or oil-based mud programs and different additives that may cause environmental problems if not properly handled. Climatic and geologic conditions, nearby populated areas, and ground water must also be factored in the protocols to target potential problem areas.

### *B. Studies and Investigations*

Environmental Protection Agency and BLM-funded studies in Wyoming, New Mexico, and Montana are helping to determine the extent of contamination and risks to human health and the environment from drilling operations and production facilities. Results from these studies will help determine the protocols for required inventories to target operations having a high potential for hazardous material contamination. These studies will also help the state regulatory agencies establish or revise rule-making to prevent future contamination problems from oil and gas activities.

Since oil and gas are leasable minerals and stringently regulated, contamination occurs less frequently than with locatable mineral activities. The oil and gas industry, as a whole, is working toward cleaning up its operations to maintain the exploration and production waste exemption in the Resource Conservation and Recovery Act when that law is authorized again.

The field implementation group anticipates the inventories would not represent a large workload for the Bureau, even with the number of oil and gas leases involved and the potential for contamination. Because accurate lease records are maintained, BLM's involvement in resolving hazardous material problems will primarily be administrative with minimal on-the-ground activity. Some lease holders have already shown a willingness to resolve hazardous materials/waste contamination problems.

These estimates do not consider uncapped wells/dry holes where large amounts of mud were used, some or all of which could be determined to be "hazardous waste." If this were to be the case, risk assessment costs could be substantially higher. An additional uncertainty is how much of the follow-up assessment and remediation would be borne by the oil companies as potentially responsible parties. The lack of available risk information and the associated legal complexities deter a supportable estimate of costs.

### *C. Corrective Actions*

Oil and gas leases with contamination would be cleaned up by the responsible party, usually the lessee. If no responsible party can be found, BLM would be responsible for cleanup. Continued monitoring of oil and gas leases needs to remain part of the oil and gas leasing program so BLM can effectively manage leases for potential hazardous wastes.

### *D. Hazardous Substance Management*

The field implementation group recommends that the Office of Management and Budget inventories be delayed until the ambiguity surrounding management of drill wastes and the uncertain extent of contamination from drilling activities is resolved. Study results would enable BLM to target operations in fields having the greatest potential for problems.

Waste minimization must be encouraged, including closed mud systems, substituting less toxic mud additives, segregating wastes, etc. Excess chemicals and products at active and shut-in operations need to be removed or secured on site to prevent potential releases of hazardous materials.

### *E. Training*

See general training guidance for the Hazardous Materials Management program.

### *F. Program Management*

BLM staffs and operators need improved knowledge about the extent of past and current contamination and associated risks to humans and the environment. In the interim, additional inspections of exploration and production operations could lessen future problems. Past exploration and production activities, not regulated as closely as they have been in recent years, present the biggest potential cleanup cost.

Refer to general program management for guidance.

## *III. Workload Capability*

The oil and gas subactivity is the designated lead for inventories with assistance from the Hazardous Materials Management program. The program would have the lead at sites where contamination is indicated and a responsible party (lessee or operator) is not available or is unwilling to assess or clean up the site. In FY 1992 and 1993, the oil and gas subactivity had budgeted no funding for this workload. In FY 92, five percent of the $20 million base Hazardous Materials Management program was spent on the Oil and Gas program. Another $30 million is needed over a 10-year period, with an additional $2 million per year to study and clean up sites contaminated by oil and gas activities.

## *IV. Conclusions*

In addition to compliance with the inventory required by the Office of Management and Budget and statutory requirements, the field implementation group recommends management changes of the Oil and Gas program within existing regulations and laws to minimize waste, prevent hazardous materials releases, and limit lessee or operator and BLM liability for hazardous material problems.

Given the regulatory ambiguity surrounding management of drill wastes, and the uncertain extent of contamination from drilling activities, the field implementation group recommends postponing the Office of Management and Budget inventories until studies are completed. Study results will enable BLM to target operations in fields having the greatest potential for contamination problems and conduct inventories at a lower cost. If inventories cannot be delayed, the following criteria can be used to prioritize fields:

Basins having deep drilling and/or hydrogen sulfide.

Areas/sites having shallow ground water.

Areas/sites having significant ground water recharge.

Drill sites in municipal watersheds.

In addition, existing ground water models that predict hydrologically vulnerable areas such as the DRASTIC model could be used to stratify fields and prioritize sites for additional study.

Waste minimization must be encouraged. Excess chemicals and products at active and shut-in operations need to be removed or secured on site to prevent potential releases. Methods and locations for disposing wastes generated at existing or proposed On-Shore Order 1 sites must be contained in the surface use plan submitted with the application for permit to drill. On-Shore Order 1 sites must also be enforced. Formal waste management plans prepared following the American Petroleum Institute guidelines and training course should be mandated for all Hazardous Materials Management staffs and operators.

BLM will cooperate with state regulatory agencies to develop reserve pit reclamation standards specific to individual state environmental concerns. Additionally, BLM will continue to work with the states in locating disposal sites for exploration and production wastes, especially if more restrictive disposal requirements are imposed on the industry.

# Workload Analysis
## HAZARDOUS MATERIALS AND BLM FACILITIES

## I. Background

BLM facilities include offices, ware yards, and recreation sites that are under direct control of BLM managers. The primary workload involves tracking hazardous materials, providing proper storage, providing training to supervisors and employees that deal with hazardous materials, reducing unnecessary uses of hazardous materials, and disposing of hazardous materials properly. These programs fall under the Employee Right to Know and Community Right to Know provisions of hazardous materials laws. This workload is a cooperative effort between Hazardous Materials Management and other service and management programs such as Engineering, Procurement, Property Management and Safety. A 1992 amendment to the Resource Conservation and Recovery Act will increase BLM's workload.

Many offices have conducted various hazardous materials inventories and begun removal actions. This is developing into a significant Bureauwide workload requiring Hazardous Materials Management support. The field implementation group anticipates this will be an ongoing workload, directly affecting BLM personnel.

## II. Workload Description

### A. Site Identification

The number of BLM offices was determined by using the BLM directory, avoiding double counting facilities housed in the same locations. Field stations and other sites with telephones were included. Recreation sites were based on the 1989 Recreation Guide to public lands and did not include small sites like trailheads, picnic tables, and waste barrels. An additional 10 sites per state were added to cover ware yards and similar facilities.

### B. Studies and Investigations

Facilities management relating to hazardous materials involves a broad set of activities. It includes chemical inventories for worker and community rights-to-know. It also includes waste disposal and storage tank management, pollution prevention, waste minimization, employee protection, training, environmental compliance audits, and other interrelated activities. It is management for cost savings, liability control, safety, engineering, as well as management of the "facility," that is, everything under a manager's jurisdiction. Counts should be made on real administrative units (districts, centers, special units, such as fire camps or caches) involving one or more managers responsible for various aspects of facility management. Funding sources will probably be irregular.

The Safety program has the lead for facility audits. Hazardous Materials Management personnel will be consulted until such time as hazardous materials are identified. Once identified, Hazardous Materials Management

personnel will handle all responses. Inspections will be consistent with Environmental Protection Agency facility audits under the Federal Facilities Compliance Act.

### *C. Corrective Actions*

Corrective actions will include proper disposal of hazardous material that cannot be used or recycled.

### *D. Hazardous Substance Management*

Management of hazardous substances will continue to be an annual workload. Annual disposal would likely take place at 100 sites.

### *E. Training*

Training will be an annual requirement for every office, employee, supervisor and training unit using or handling hazardous materials.

### *F. Program Management*

Program management costs will be paid by many programs, but mostly management units.

## *III. Workload Capability*

BLM is currently inventorying and auditing facilities pursuant to applicable regulations. Funding levels (approximately $1 million) will be adequate to continue this effort, provided unexpected orders or fines are not imposed by state regulatory agencies under the Federal Facilities Compliance Act.

## *IV. Conclusions*

The BLM must continue its strong commitment to facilities management. The procurement procedures should be changed as soon as possible to include life-cycle tracking of hazardous materials and replacing hazardous materials with non-hazardous substitutes.

The Safety program and Hazardous Materials Management program should continue to develop joint policy and procedures to keep up with the workloads and anticipate the demands of the state regulatory agencies under the Federal Facilities Compliance Act.

# *Workload Analysis*
## *HAZARDOUS MATERIALS AND LAW ENFORCEMENT*

## *I. Background*

Law enforcement and Hazardous Materials Management program coordination began soon after the Hazardous Materials Management program was established. The first documentation was the Arizona Contingency Plan in 1986. This plan incorporated law enforcement into reporting procedures, action guides, site controls, and security procedures. The first illegal incident was investigated in 1985. Up until 1990, unlawful hazardous incident cases were pursued infrequently. Since then, hazardous incident investigations have become full-time jobs in Arizona and elsewhere on public lands.

## *II. Workload Description*

### *A. Site Identification*

A large part of the increased workload is caused by illegal recycling operations. These fall into two categories — wire burners and auto dismantlers. The remaining workload involves other illegal activities associated with Hazardous Materials Management operations: drug lab remains, midnight dumps, and other illegal operations.

**Wire Burners**
Wire burners typically use public lands at night to burn insulated copper wire to recover copper. By-products of this process include high levels of lead, tin, cadmium, and in some cases, polychlorinated biphenols or dioxin. Burning sites can be recognized by blackened soil and burned wire remnants.

**Auto Dismantlers**
Auto dismantlers typically shred entire automobiles and separate iron base metals using electromagnetics. If hazardous auto components are not removed from the vehicle before shredding, the remaining "auto fluff" can become contaminated with hazardous substances. Auto fluff has the appearance of dirty cotton batting containing a mixture of auto components.

**Drug Labs**
Drug labs and their remains can be one of the most dangerous types of sites because they usually produce methaphedamines. The labs are usually booby-trapped to protect against intruders. The remains are usually disguised to avoid detection.

Travel trailers, miner's shacks, and house boats are often used as operating labs. Activity at these sites typically takes place at odd hours. The average "cooking cycle" only takes about 12 hours, making detection of operating labs difficult.

**Midnight Dumps**
Hazardous materials are normally dumped late at night to avoid detection and costs of legal disposal. Prohibited or unused chemicals are frequently dumped by individuals or groups ranging from the oil field or mine operator with drilling waste to agricultural operations. As solid waste landfill restrictions which prohibit disposal of these materials increase, illegal dumping on public lands is expected to increase.

**Other Illegal Operations**
These practices include such activities as illegal waste storage and trespass dumping on public lands, and the conduct of other than authorized activities on public land leases.

B. Studies and Investigations

Table 6 identifies State Office workloads.

Incidents are reported as they occur, so no studies are involved. Investigations are of a criminal or civil nature, usually performed by Bureau Law Enforcement personnel with support from Hazardous Materials Management personnel.

TABLE 6

State Office Workload

| State | Wire Burners | Dismantler | Drug Labs | Dumps | Other | WMs |
|---|---|---|---|---|---|---|
| Alaska | 2 | 2 | 0 | 5 | 0 | 4 |
| Arizona | 3 | 1 | 2 | 6 | 1 | 20 |
| California | 2 | 2 | 22 | 2 | 2 | 30 |
| Colorado | 10 | 1 | 1 | 22 | 7 | 20 |
| E. States | 0 | 0 | 0 | 0 | 0 | 0 |
| Idaho | 2 | 0 | 0 | 11 | 22 | 6 |
| Montana | 1 | 0 | 0 | 7 | 0 | 6 |
| Nevada | 3 | 1 | 2 | 15 | 7 | 20 |
| New Mexico | 8 | 2 | 2 | 10 | 0 | 20 |
| Oregon | ? | ? | ? | ? | ? | 12* |
| Utah | 3 | 1 | 3 | 3 | 1 | 6 |
| Wyoming | 0 | 0 | 0 | 6 | 0 | 10 |
| TOTAL | 31 | 8 | 31 | 72 | 33 | 146 |

* An average was used in lieu of actual numbers.

### *C. Corrective Actions*

Sites vary widely in cleanup costs, but most costs are within the small to moderate range. One exception to date has approached a cleanup cost of $2,000,000. Sites can be time or non-time critical. Costs per site (from past experience) average $20,000.

TABLE 7

State Office Workload Capability

| State | Est. WMs | Current Capacity | Backlog WMs | Backlog Cases |
|---|---|---|---|---|
| Alaska | 4 | 4 | 0 | 0 |
| Arizona | 20 | 15 | 5 | 2 |
| California | 30 | ? | 5 | 2 |
| Colorado | 20 | 0 | 0 | 10 |
| E. States | 0 | 0 | 0 | 0 |
| Idaho | 10 | 6 | 4 | 5 |
| Montana | 10 | 6 | 4 | 2 |
| Nevada | 20 | 15 | 5 | 2 |
| New Mexico | 15 | 4 | 11 | 4 |
| Oregon | ? | ? | ? | ? |
| Utah | 10 | 6 | 0 | 0 |
| Wyoming | 12 | 10 | 2 | 1 |
| TOTAL | 131 | 51 | 31 | 26 |

### *D. Hazardous Substance Management*

Safety for Bureau investigators is a major concern. To gather evidence, either the investigator or a contractor is required to enter a site to collect samples. The level of personal protective equipment is a concern, since the nature of the substances are often unknown. Site entry for law enforcement personnel is an issue that must be addressed.

### *E. Training*

All law enforcement employees must complete the basic Hazardous Materials Management course and the Hazardous Materials Management Law Enforcement course. If site entry is required, then the 40-hour Occupational Safety and Health Act course is also a requirement.

### *F. Program Management*

A close working relationship is essential for Hazardous Materials Management and Law Enforcement staffs. Some states have developed procedures to help personnel understand site responsibilities, reporting, sampling, and testing, but Bureauwide procedures are critically needed. Clear policy direction including operating procedures and guidelines, a commitment to funding and support, provisions for close coordination, training Law Enforcement in hazardous materials, and line management support are necessary for overall program success.

## *III. Workload Capability*

As of August 1993, the Law Enforcement program is working on 190 cases related to the Hazardous Materials Management program. About half of the states have full-time hazardous material investigators. Two-thirds of the funding to support these efforts comes from Law Enforcement; one-third from Hazardous Materials Management. Bureauwide, this means that approximately five percent of Hazardous Materials Management program funding is spent supporting law enforcement. Case convictions have shown a rapid increase in cases over the past two years.

Currently, 30 hazardous materials management cases are backlogged at an estimated workload cost of $200,000. A one-third increase in investigations and increased funding from either program could alleviate this backlog.

The Bureau has an approximate backlog of 570 cases which require site identification, removal studies/investigations, and corrective actions, approximately three times the existing known cases. Cleanup activities are covered elsewhere in this report.

Once the backlogs are eliminated, annual growth is expected to be 10 percent, based on increased awareness and patrols on public lands by law enforcement personnel.

## *IV. Conclusions*

At this point, Law Enforcement Bureauwide is in a catch-up mode. Some states are assisting with direct funding from the Hazardous Materials Management program. One of the major deterrents against illegal incidents is convictions. States with aggressive or effectively coordinated Hazardous Materials Management enforcement programs are being used as models for others to follow. Success for law enforcement in the Hazardous Materials Management program requires clear policy direction including operating procedures and guidelines; a commitment to continue funding; at least one full-time law enforcement position per state for hazardous materials; continuing line management support; and training for law enforcement personnel in hazardous materials management.

# *Workload Analysis*
## *HAZARDOUS MATERIALS MANAGEMENT SUPPORT OF OTHER PROGRAMS*

## *I. Introduction*

The Hazardous Materials Management program supports all other programs for non-site activities. These are defined as activities and sites that need to be investigated for hazardous material considerations, but which may or may not result in contaminated sites.

## *II. Workload Description*

The land adjustment program, including acquisition, disposal and withdrawal review, requires hazardous materials surveys to ensure that contaminated lands and subsequent liabilities for cleanup are not being acquired or disposed. The Secretary's Waste Minimization Initiative requires Hazardous Materials Management program involvement in virtually all other BLM programs and activities. The hazardous material communication standard and proposed chemical management plan also require Hazardous Materials Management support.

## *III. Workload Capability*

The workload and other support activities will account for 20 percent of the Hazardous Materials Management base program ($4 million) in FY 1994. Assuming that other programs do not experience a significant increase in workload that requires additional support, the field implementation group anticipates $4 million per year will be adequate for the next 10 years.

## *IV. Conclusions*

The benefiting Lands subactivity should pay for land adjustment hazardous materials surveys. This would make money available for Hazardous Materials Management support of other programs such as the Secretary's Waste Minimization Initiative.

# *Summary*

Many of the known hazardous waste problems on public lands are byproducts of historic public land uses, such as community landfills, mines, agricultural operations, or oil and gas development. Most are legacies from times when environmental laws were lax or nonexistent, and municipal and industrial control procedures were less effective than they are now. BLM is committed to meeting and effectively managing the complex hazardous materials challenges on public lands for the protection of public health and safety, natural resources, and the environment. The analyses and recommendations contained in this report are designed to improve and accelerate the Bureau's commitment toward meeting these challenges through better management and a vigorous implementation strategy.

# WORKLOAD ANALYSIS

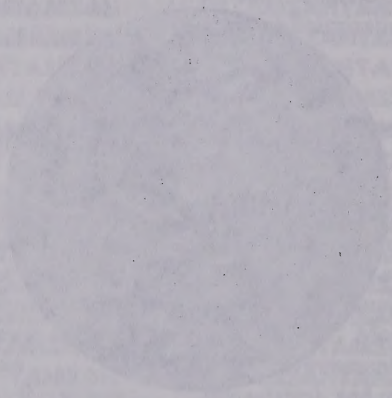
## for BLM's Hazardous Materials Program

## Hazardous Materials Budget Strategy

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

PREPARED BY THE HAZARDOUS MATERIALS
FIELD IMPLEMENTATION GROUP
BUREAU OF LAND MANAGEMENT

SEPTEMBER 1993



# Hazardous Materials Budget Strategy

## Introduction

This proposed budget strategy identifies funding requirements for the various components of the Hazardous Materials Management program for the next 10 years. It is intended to serve as a basis for future funding requests to the Department, the Office of Management and Budget, and Congress. In the event that projected funding levels cannot be met, this strategy identifies the workload trade-offs that may be required.

The proposed budget strategy incorporates:

- emerging trends in the Bureau's Hazardous Materials Management program.
- new regulatory requirements.
- new Department initiatives.
- Bureau commitments.
- the National Academy of Engineering/ National Research Council report.
- deficit reduction and shrinking budgets.
- numerous program studies.
- changing organizational environments.
- the field implementation group workload analyses.

## Background/Funding History

The Bureau's hazardous materials management program was formally initiated in late FY 1983. Funding at that time was obtained through the soil, water, and air program. A separate funding subactivity for the program was established in FY 1985.

The initial effort, which was created at the Washington Office, included designating part-time program leaders in each of the Bureau's state offices to identify state program workloads and develop individual state programs. By FY 1991, many State Office Program Leaders were assigned full-time to the program. Table 1 shows the funding history of the program.

TABLE 1

Hazardous Materials Management Program Funding History

| Fiscal Year | Appropriations | Expenditures |
|---|---|---|
| 1985 | $1,274,000 | |
| 1986 | $1,832,000 | $1,458,298 |
| 1987 | $3,487,000* | $2,886,085** |
| 1988 | $5,880,000 | $6,384,152** |
| 1989 | $12,374,000 | $12,365,696 |
| 1990 | $12,332,000*** | $10,942,952 |
| 1991 | $17,965,000 | $18,149,128 |
| 1992 | $20,487,000 | $19,848,941 |
| 1993 | $22,521,000 | |
| 1994 Request | $19,954,000 | |

* Includes a regular appropriation of $1,782,000 and a supplemental, two year appropriation of $1,705,000 for the Oroville Landfill Site in Washington.

** Includes expenditures from the FY 1998 appropriation and the FY 1987 supplemental appropriation for the Oroville Landfill Site in Washington.

***Due to reprogramming, the actual expenditure was $11,210,000.

Program objectives became clearer and broader in scope as the program developed, expertise was obtained, and funding increased. Basic objectives evolved to include:

(1) protection of the health and safety of public land users, visitors, neighbors, employees, and other public/ constituencies from hazardous materials on public lands.

(2) compliance with federal and state hazardous materials and other applicable laws and regulations.

(3) minimization of future hazardous materials-related liabilities and costs.

(4) protection of natural resources and the environment from hazardous materials on the public lands.

(5) coordination with other Bureau programs having roles or activities relating to hazardous materials management on public lands.

The Hazardous Materials Management program was different from other Bureau programs in that the Bureau became a regulated entity as well as a regulator. The program was structured in three tiers: inventory and site identification; assessment; and development of studies and plans for site cleanup and restoration. The inventory and site identification process largely depended on reports from public land users and other state and federal agencies. As Bureau employees became more familiar with the program, they were able to identify additional sites as part of their regular Bureau field operations.

Once sites were identified, Bureau personnel determined whether they required further study, emergency response, or hazardous waste removal actions in accordance with the Comprehensive Environmental Response, Compensation and Liability Act. With limited funding, agency staff and expertise in the program, as well as agency policy prohibiting Bureau employees from entering hazardous material sites, the Bureau used contract specialists to complete these workloads. By developing and managing contracts and overseeing local projects, field office staffs gained the basic expertise needed to manage the program.

Because of the growing complexity of the laws and regulations governing hazardous materials, the level and diversity of the larger remediation projects, and the growing numbers of program staff at the field level with limited expertise, training became a critical component of the program. Development of a training program gradually changed program operations to a more field-focused mode.

## *Current Situation*

In late 1990, the Bureau began changing program operations to match the rapidly evolving scope and significance of potential hazardous materials situations. Program operations were decentralized to meet these challenges, enabling the field to more effectively manage on-the-ground situations. Expertise at the field level had expanded beyond that of the State Office Program Leaders, and an effective training mechanism was in place to augment or develop the required expertise.

In FY 1991, as part of the program's decentralization, funding was shifted to the Bureau's field offices and Service Center. In addition, field offices were authorized to manage and develop contracted workloads, and in some cases, perform some previously contracted functions. These changes continued in FY 1992 and 1993, and the Bureau's dependence on contractors has been steadily decreasing.

To date, most of the hazardous materials management workload derives from past authorized lands and minerals activities on public lands, pre-regulatory activities, as well as illegal activities on public lands such as midnight dumping and drug labs. As has been the case throughout the history of the program, the number of removal actions/ emergency responses continues to rise (approximately 200 in FY 1992).

The Bureau is also becoming involved with increasingly more complex and costly remedial processes at several sites, with more sites anticipated. Each site requires a remedial investigation/feasibility study to fully characterize the site and determine remedial actions and long-term cleanup, followed by actual cleanup and long-term monitoring. The Bureau is also a potentially responsible party at some sites, which could require re-allocating Bureau funds for remedial actions, based on negotiations with other parties. In FY 1995, remedial design and action will likely occur on those sites where the Bureau has initiated remedial investigation/feasibility studies. If no other potentially responsible parties can be identified for these sites, the budgetary impact could be significant and could cause other critical program work to be deferred.

Most states are continuing to conduct inventories and perform preliminary site assessments and investigations under the Comprehensive Environmental Response, Compensation and Liability Act process. The process involves the Bureau completing preliminary assessment reports and submitting them to EPA for review. Once EPA provides its findings, the Bureau analyzes the findings. To date, 285 preliminary assessments and 73 site investigations have been completed.

In addition, the Bureau is taking preventive measures beyond what the Comprehensive Environmental Response, Compensation and Liability Act requires, to further minimize hazardous waste generation. These Bureau measures comply with the Resource Conservation and Recovery Act mandates, the recently enacted Federal Facilities Compliance Act, and Secretarial Order 3158 (issued December 14, 1992):

> to prevent the generation and acquisition of hazardous wastes.
>
> to use sound waste management practices that reduce the amounts (toxicity or risk), wherever waste generation is unavoidable.

to manage waste responsibly to protect the natural resources and the people who use public lands and facilities.

to aggressively clean up and restore public land areas contaminated by pollution.

Currently, the equivalent of 196 Bureau personnel (many full-time) are involved in implementing the Bureau's Hazardous Materials Management program. For program implementation, most state offices now have full-time program leaders. Many states have full-time positions at the district and resource area levels, which are further supported by other collateral duty positions in the hazardous materials program and in such programs as safety, resource protection/law enforcement, minerals, lands, records, and others. In addition, the Service Center has a hazardous materials staff in place, providing technical assistance, developing and maintaining program data, and providing contract support to field offices as needed.

The training component of the program is continuing to expand to meet the changing nature of the Bureau's program and the more advanced training demands of experienced personnel. Other agencies are expressing interest in this training as well.

## *Future Needs*

The scope of the on-the-ground workload for the program has been estimated in the workload analysis section that follows. The costs associated with this workload have been estimated at $571,457,500 (using 1992 workload component costs) as shown on Table 2.

TABLE 2

Hazardous Materials Management Projected Site Costs

| Program Area | Estimated Cost |
|---|---|
| Authorized landfills | $106,000,000 |
| Unauthorized landfills | 32,000,000 |
| Trespass trash dumps | 43,500,000 |
| Rights-of-way (not including hazmat program funding) | 2,000,000 |
| Leases, permits and easements (including airport leases | 6,957,500 |
| Oil and gas | 41,000,000 |
| Locatable minerals | 340,000,000 |
| TOTAL | 571,457,000 |

***Source***

Meeting the Challenge of Hazardous Materials on the Public Lands—Field Implementation Group Plan and Report (September 1993).

The workload is divided between the Hazardous Materials Management program and major areas of other Bureau programs relating to hazardous materials (e.g., authorized landfills, oil and gas operations, and locatable minerals).

TABLE 3

Hazardous Materials Management Projected Site Costs

| Workload | Program Funding | Hazmat Funding | Total Estimated Funding |
|---|---|---|---|
| Authorized landfills | 6,000,000 | 100,000,000 | 106,000,000 |
| Unauthorized landfills | 2,000,000 | 30,000,000 | 32,000,000 |
| Trespass trash dumps | 2,000,000 | 41,500,000 | 43,500,000 |
| Rights-of-way | 2,000,000 | | 2,000,000 |
| Leases, permits and easements | 457,500 | 6,500,000 | 6,957,500 |
| Oil and gas | 1,000,000 | 40,000,000 | 41,000,000 |
| Locatable minerals | 15,000,000 | 325,000,000 | 340,000,000 |
| Total | 28,457,500 | 543,000,000 | 571,457,500 |

### *Source*

Meeting the Challenge of Hazardous Materials on the Public Lands—Field Implementation Group Plan and Report (September 1993).

### *Note*

The above estimates do not identify workloads or costs for such workloads as policy development, issuance of procedural guidance, litigation, cost recovery actions, coordination with other agencies, reimbursable costs to the EPA or state agencies under the Federal Facilities Compliance Act and others.

One objective of the 10-year program budget strategy is to establish a realistic base funding level. The base level projection shown in Table 4 is intended to include staffing, travel, training, equipment acquisition, small emergency responses, assistance for inventories conducted by other programs, preliminary assessments, technical assistance contracts, health monitoring and equipment, other day-to-day activities such as minor sampling costs and waste minimization, federal facilities compliance, record keeping requirements, procurement support, and public affairs assistance. [Note: The Bureau anticipates it will reach the required base funding level of $22,974,000 per year in about four or five years.]

TABLE 4

| Hazardous Materials Management Projected 10-Year Base Program Costs | |
|---|---|
| Program Area | Estimated Cost |
| Bureau facilities (10-year cost) | $7,140,000 |
| Waste minimization/Federal Facility Act compliance | 16,000,000 |
| Resource protection/Law Enforcement | 9,600,000 |
| Safety | 5,000,000 |
| Hazmat support to other programs | 4,000,000 |
| Training development | 5,000,000 |
| Technical assistance/support | 8,000,000 |
| Health monitoring | 2,000,000 |
| Limited emergency response, sampling, testing, and disposal (not major removal) | 20,000,000 |
| Inventory and monitoring | 24,000,000 |
| Labor | 104,000,000 |
| Labor support costs (travel, training, and equipment) | 25,000,000 |
| TOTAL | $229,7400,000 |

The proposed base funding level, identified in Table 5, was developed after reviewing the status of program implementation in each Bureau office, consulting with Bureau program leaders in each office, and evaluating upcoming workloads. [Note: This proposed distribution may require minor adjustments as program situations dictate.]

TABLE 5

Hazardous Materials Management Funding Distribution by Office

| Office | FY 1992 Allocation | FY 1993 Allocation | Proposed Base Funding |
|---|---|---|---|
| Alaska | $ 932,000 | $1,090,000 | $1,400,000 |
| Arizona | 1,868,000 | 1,331,000 | 1,400,000 |
| Training Center | 694,000 | 1,095,000 | 1,244,000 |
| California | 1,421,000 | 2,000,000 | 2,100,000 |
| Colorado | 340,000 | 743,000 | 800,000 |
| E. States | 172,000 | 400,000 | 500,000 |
| Idaho | 2,195,000 | 1,992,000 | 2,000,000 |
| Montana | 1,000,000 | 1,000,000 | 1,100,000 |
| Nevada | 825,000 | 1,044,000 | 1,100,000 |
| New Mexico | 2,395,000 | 1,903,000 | 2,000,000 |
| Oregon | 1,350,000 | 1,809,000 | 2,100,000 |
| Utah | 550,000 | 801,000 | 1,000,000 |
| Wyoming | 581,000 | 863,000 | 900,000 |
| Service Center | 3,284,000 | 3,605,000 | 3,800,000 |
| Resource Prot. | 53,000 | 250,000 | 700,000 |
| Wash. Office | 1,351,000 | 764,000 | 850,000 |
| WO 900 | 56,000 | 8,000 | |
| BW PCS | 132,000 | 254,000 | |
| TOTAL | $19,199,000 | $20,952,000 | $22,974,000 |

***Sources***
FY 1992 PAWP/AWP Subactivity Funding Allocation Table, Subactivity 4760 - Hazardous Materials Management (November 18, 1991).

***Sources***
FY 1993 PAWP/AWP Subactivity Funding Allocation Table, Subactivity 4760 - Hazardous Materials Management (December 2, 1992).

Telephone conversations between Bill Wagner and several State Office Program Leaders (excludes the Phoenix Training Center, Service Center, Resource Protection, and Washington Office), with adjustments.

# *Projected 10-Year Budget Strategy*

## *Assumptions*

In order to project a 10-year budget based on the workload identified in this report, evolving Bureau and Departmental programs, and other situations affecting hazardous materials management, the following assumptions have been made.

1. The existing Bureau three-tier field structure will be maintained.

2. State Offices will move toward the following staffing levels:

   a. Full-time (10 workmonths) hazardous materials program leader.

   b. Full-time (10 workmonths) law enforcement position to support the hazardous materials management program.

   c. Five workmonths for safety to support the hazardous materials safety program.

d. Five workmonths for support from other programs.

e. Full-time (10 workmonths) for technical specialist.

f. Workmonths for managerial, records, and clerical support.

g. Workmonths for external affairs support.

3. District office staffing will be a scaled-down version of the state offices; technical specialists will only be staffed in offices where hazardous materials workloads are extremely heavy. This includes a full-time district office hazardous materials coordinator.

4. Area offices will move to a similar structure if they have or are likely to have significant hazardous materials workloads.

5. The Washington Office staff will be limited, pursuant to the program decentralization and right-sizing decisions.

6. The Training Center staff, in conjunction with the training task force, will continue efforts to develop new courses and modify existing courses to meet Bureau program needs. Travel for some courses will be paid by the Training Center.

7. The Service Center will continue procurement support to the field offices; maintain a limited staff of technical experts to assist field offices and to serve as Contracting Officers representatives on certain hazardous materials contracts; and support certain functions, performed by the Division of Technical Services, related to hazardous materials management.

8. The Resource Protection Staff in Boise will establish and maintain its hazardous materials management capability and staff a reporting information line to identify incidents on public lands.

9. Inventories, with minor exceptions, will be conducted by the user program. For example, the fluids program will conduct inventories associated with oil and gas wells; the lands program will conduct inventories associated with rights-of-way, landfills, unauthorized dumps, etc.; the mining law administration program will be responsible for inventories associated with mining operations and mining claims.

10. The program will emphasize pollution prevention, waste minimization, and compliance with the Federal Facilities Compliance Act and Secretarial Order 3158.

11. Additional statutory and regulatory changes are anticipated as major laws are reauthorized; however, described workloads are based on the current program framework.

12. The Bureau will provide (on a quarterly basis) input into the Department's hazardous materials management tracking system, anticipating increased reporting/ workload requirements as the Department's program continues to evolve.

13. The Bureau's current program operation will continue. Possible Department efforts to consolidate/centralize contracting, training, and funding have not been included in this analysis.

14. The Bureau has stated that it will complete inventories by 1998. However, because of the large workload that this would entail (as identified in the workload analysis), this commitment will not be met.

15. Funding increases will be limited by deficit reduction formulas.

16. This analysis does not include requirements under the Clean Air Act, Clean Water Act, Pollution Prevention Act, Toxic Substance Control Act, and Federal Insecticide, Fungicide, and Rodenticide Act.

In addition to these assumptions, this budget strategy also considers ongoing activities as a starting point for developing budget projections.

## *Analyses*

To begin the development of the 10-year funding proposal, end-of-year figures from FY 1992 were used. Using report PG 110 P1, approximately $17 million of the FY 1992 appropriation ($20,487,000) is estimated to be associated with the items defined as the base level program. The base program is expected to remain about the same if the proposed funding level for FY 1994 is adopted. (The FY 1994 projected funding level for hazardous materials management is $19,954,000—a reduction of $2,567,000 from the FY 1993 appropriation of $22,521,000 and a reduction of $533,000 from the FY 1992 level of $20,487,000.)

Funding reductions in FY 1994 will refocus the program as follows:

- Cleanups at sites having the greatest risk to human health and the environment will have the highest priorities, while non-critical actions will be postponed. All requirements of the law will still be met and actions needed to control immediate risks at sites will be taken.

- Increased emphasis will be placed on identifying potentially responsible parties and requiring these parties to conduct site assessments and cleanups.

- Pre-screening will be increased to determine whether costly, full assessments are really necessary. Assessments will continue at high-risk docket sites, although the number of sites needing action is anticipated to drop.

- To control liability, the Bureau will continue to conduct non-statutory audits at hazardous waste treatment, storage and disposal sites and Bureau facilities, but at a reduced level and using more in-house resources.

- Resources will be increasingly used for pollution prevention and waste reduction on public lands in accordance with laws and the Secretarial Order. Emphasis will be placed on integrating hazardous materials management principles and pollution prevention strategies with the resource management programs of the Bureau (especially the planning, lands, and minerals programs).

Because the base for FY 1994 will be approximately that of FY 1992 (based on the requested funding level for FY 1994), a gradual increase in program funding (subactivity 4760) will be required until the

desired base level is reached, approximately four to five years. In addition, increases in subactivity 4760 will be required as the Bureau begins remedial actions associated with pending and anticipated remedial investigation/feasibility studies as well as other costly site-related actions. Increases in other related programs (not subactivity 4760) will be needed for the large inventory workload.

A projected 10-year funding scenario is identified in Table 6.

TABLE 6

Hazardous Materials Management and Related Programs
10-Year Proposed Funding Scenario

| Fiscal Year | Other Programs | Hazmat Base Program | Hazmat Remedial Program | Bureau Total |
|---|---|---|---|---|
| 1994 | $1,000 | $17,245 | $ 2,709 | $ 20,954 |
| 1995 | 1,500 | 18,649 | 9,000 | 29,149 |
| 1996 | 2,250 | 20,153 | 13,000 | 35,403 |
| 1997 | 3,000 | 21,757 | 16,500 | 41,257 |
| 1998 | 3,500 | 22,974 | 16,500 | 42,974 |
| 1999 | 3,500 | 22,974 | 19,500 | 45,974 |
| 2000 | 3,500 | 22,974 | 21,000 | 47,474 |
| 2001 | 3,500 | 22,974 | 23,500 | 49,974 |
| 2002 | 3,500 | 22,974 | 24,500 | 50,974 |
| 2003 | 3,500 | 22,974 | 25,500 | 51,974 |
| Total | $28,750 | $215,648 | $171,709 | $416,107 |

The above figures represent estimates needed for programs to conduct comprehensive inventories, as described in the workload analysis section of this report. While some inventories are being conducted, no comprehensive Bureau policy and approach/ methodologies are in place. This issue must be addressed and resolved quickly. In addition, since inventories will not be completed by 1998 as identified, the Office of Management and Budget needs to be notified (after the Bureau develops its inventory strategy/approach).

The estimates also include the base program as previously described. Remedial costs, incurred from ongoing and identified inventory workloads, include remedial investigation/feasibility studies and remedial design/remedial actions. For purposes of this projection, remedial investigation/ feasibility studies are assumed to take two years to complete, with funding required in both years. Similarly, remedial design/remedial actions are assumed to take three years to complete, with funding required in each of those years.

In addition, major removal actions are likely, each expected to be completed in one year. Some type of action, such as a potentially responsible party, is also anticipated for those sites where the Bureau is not the management lead.

The figures, however, do not include costs for litigation, cost recovery, or other such

potentially costly actions, nor does it include the workload for cleaning up all contaminated sites (as estimated in the workload analysis). Funding for litigation and possible cost recovery actions will be addressed as situations arise.

In projecting workload and funding, hazardous materials capability (i.e., the work force and the qualifications of that work force) will continue to be critical to meet existing workloads, new demands and changing emphasis. This is reflected in the base funding where continued training development is considered a requirement.

Bureau policy and procedural guidance development will be critical in dealing with current processes and new requirements. The need for policy and procedural guidance is particularly significant for training development and for Bureauwide hazardous materials-related inventories.

The policy and procedures workload will continue to be a priority in FY 1994 and FY 1995 as the Comprehensive Environmental Response, Compensation and Liability Act is reauthorized, changes are made concerning mines and mining activity as they relate to hazardous materials management, and refinements are made in the statutory and regulatory structure concerning hazardous materials management and federal/public land management. Guidance is being developed by work groups and a new program coordination committee comprising State Office Program Leaders (as identified as the field implementation group's policy recommendation 2).

Management involvement to support the program and this funding strategy will, of necessity, increase. Bureau managers must be aware of the funding implications of all actions being taken, and particularly focus on securing funding for those sites where remedial action will be initiated within the next few years. (If EPA assumes responsibility for such activities, the Bureau will be required to reimburse EPA for the cost.)

Regular briefings for the Bureau Management Team, particularly concerning sites with critical on-going negotiations and precedent-setting cases, will be required. Coordination with the Department, the Office of Management and Budget, and Congress will be essential as the Bureau becomes more proficient and responsive to new requirements. More communication and coordination will be needed between State Directors and congressional delegations, local BLM offices and other elected officials, land users and the general public.

The creation of a temporary program advisory position would enhance management exposure to the program and would facilitate interagency and intra-agency coordination. The advisor would also serve as a congressional liaison and program advocate (as identified as the field implementation group's policy recommendation 1).

The Bureau also needs a revised funding structure to handle workloads that involve large expenditures (e.g., remedial investigation/feasibility studies, remedial design/remedial actions, and large removal actions under the Comprehensive Environmental Response, Compensation and Liability Act; major corrective actions under the Resource Conservation and Recovery Act; major investigations and litigation); and

contingencies (as identified in the field implementation group's policy recommendation 3). The current structure could adversely affect regular/base program operations under the normal year-to-year appropriations, and compliance with statutory and regulatory requirements and enforcement orders. [Note: The National Research Council offered several proposals in its 1992 report.] Congressional action will be required for such a funding mechanism and could be pursued as part of the Comprehensive Environmental Response, Compensation and Liability Act reauthorization.

Authorization for carry over/no-year funding would provide much flexibility. Detailed planning for major actions would be required to support budget requests where carry over funding would be authorized. A ranking system should be established to identify the most critical sites for funding.

Possibly, a Departmentwide ranking system could be established for sites beyond the site inspection stage. A Department superfund (no-year funding for major hazardous materials actions) is also being considered, due in part to deficit reduction considerations.

Another important component of this funding strategy is for the Bureau to establish a cost recovery policy. This would require congressional action and modifications to other government policies in this area, particularly with the Department of Justice. See the field implementation group's policy recommendation 4 for other rationale.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ARIZONA STATE OFFICE

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1703 (910)

November 8, 1993

Memorandum

To: Field Committee

From: Associate State Director, Arizona

Subject: Workload Analysis, Hazardous Materials Program

It is a pleasure to submit the Field Implementation Group's, Workload Analysis, for The Bureau's Hazardous Materials Program, **"A Look Into the Future".**

With this document, the Field Implementation Group has evaluated existing and proposed workloads, funding and personnel needs for BLM's Hazardous Materials Management Program over the next 10 years. In addition, goals and objectives and proposed policies have been recommended to assist in implementation of the program.

As you probably know, The Field Implementation Group was chartered by the Field Committee, to evaluate the emerging role of hazardous materials management, resulting from the Bureau Management Team's decision to decentralize the program.

Please convey my appreciation for the assistance and data that each of the Hazardous Material Program Leads gave the Field Implementation Group.

Bruce Conrad

Attachment

- early information indicates more top-down mgmt.
- other agencies having greater roles in Hazmat

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